Amendments to the Claims:

The following listing of claims replaces all prior listings, and prior versions, of the claims.

Listing of Claims:

1 - 33. (cancelled)

34. (new) A method for heat treating at least one workpiece comprising the steps of:

cleaning a furnace chamber to be used during said heat treating method;

said cleaning step comprising injecting a gas only at a center of an area where the at least one workpiece is to be located in said furnace chamber, said injecting step comprising injecting said gas at a partial pressure and a flow rate sufficient to create a pressure differential which carries contaminants away from said center and toward an exit of said furnace chamber;

said cleaning step further comprising applying heat at a temperature which is 200 to 300 degrees Fahrenheit above a temperature to be used in a subsequent diffusion heat treating step for at least 30 minutes; and

after said cleaning step has been completed, placing said at least one workpiece within said cleaned chamber and diffusion heat treating said at least one workpiece in a gas atmosphere with said gas being injected only at said center.

35. (new) A method according to claim 34, wherein said gas injecting step comprises injecting said gas at a partial pressure of at least 0.8 Torr.

36. (new) A method according to claim 35, wherein said gas injecting step comprises injecting said gas into said furnace at a rate of 30 liters per minute to 70 liters per minute.

37. (new) A method according to claim 34, wherein said gas injecting step comprises injecting an inert gas.

38. (new) A method according to claim 34, wherein said gas injecting step comprises injecting argon.

39. (new) A method according to claim 34, wherein said gas injecting step comprises injecting a reducing gas.

40. (new) A method according to claim 34, wherein said diffusion heat treatment step is carried out at a temperature in the range of 1900 degrees Fahrenheit to 2500 degrees Fahrenheit for a time period in the range of 1 to 24 hours.

41. (new) A method according to claim 40, wherein said diffusion heat treatment step comprises injecting said gas only at said center and at a rate sufficient to carry away contaminants in said at least one workpiece but less than a rate at which a door to said furnace chamber is caused to open.

42. (new) A method according to claim 41, wherein said diffusion heat treatment step comprises injecting said gas at a partial pressure of at least 0.8 Torr.

43. (new) A method according to claim 42, wherein said gas is injected into said furnace at a flow rate of 30 liters per minute to 70 liters per minute.

44. (new) A method according to claim 41, wherein said diffusion heat treatment comprises injecting an inert gas.

45. (new) A method according to claim 41, wherein said diffusion treatment comprises injecting argon.

46. (new) A method according to claim 41, wherein said diffusion heat treatment comprises injecting a reducing gas.

47. (new) A method according to claim 34, wherein said injecting step further comprises providing a manifold within said chamber, positioning said manifold at said center, and injecting said gas only at said center via said manifold.

48. (new) A system for heat treating a coated workpiece comprising:

a furnace having a chamber and an area for locating at least one workpiece within said chamber, said area having a center;

means for cleaning said chamber prior to heat treating said coated workpiece; and

said cleaning means comprising means for delivering a gas only at said center of said area for locating said at least one

workpiece and at a partial pressure and a flow rate sufficient to carry any contaminants located within said chamber from said center toward an exit.

49. (new) A system according to claim 48, wherein said injecting means comprises means for injecting at least one of an inert gas or a reducing gas.

50. (new) A system according to claim 48, wherein said injecting means comprises means for injecting argon gas.

51. (new) A system according to claim 48, wherein said delivering means comprises a manifold located within said furnace chamber at said center, and wherein said system further comprises a source of said gas located externally of said chamber and a feed line connecting said gas source to said manifold.

52. (new) A system according to claim 48, further comprising at least one vacuum pump and said at least one vacuum pump being used to create movement of said contaminants from said center towards low pressure areas about the furnace chamber.